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ABSTRACT

This paper traces the development of guidelines to help education instructors effectively evaluate and provide guided practice for student teachers as they reflect on their professional work. The University of Wisconsin River Falls requires student teachers to videotape their teaching experiences, then reflect on how, why, and where they meet Wisconsin learning outcomes and standards with the videotaped assignments. Students must reflect on how to change and improve their instruction and establish goals for professional development. Instructor feedback on students' reflections is an important part of the effort. Researchers reviewed and ranked five preservice teachers' videotaped teaching and reflections. This led to levels of reflection rubric, which divided reflections into high, medium, and low levels. Three students were then assisted with their reflections as they viewed their videotapes, and they engaged in a dialogue about their teaching. New insights gained by the three guided practice sessions included the need to provide instruction on videotaping, guidelines for editing and reflecting, and instructors' need to provide developmentally appropriate reflective assessments and accompanying assessments. A three-stage developmental model for reflective practitioners emerged which applies the six levels of Bloom's Taxonomy and includes the Ten Wisconsin Teaching Standards. Videotape Reflection Feedback Form (rubric for enhancing peer dialogues or faculty assessments of reflective practice) and the same rubric reduced to reflect this assignment are appended. (Contains 20 references.) (SM)

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Evaluating Student Reflections

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Abstract

The work herein traces the development of guidelines for education instructors to effectively evaluate and provide guided practice for preservice and student teachers as these novices reflect on their professional work. The concluding product is a flexible rubric that combines the ten Wisconsin Teacher Standards with Bloom's taxonomy and can be altered to fit the needs of preservice teachers, student teachers and instructors alike.

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Introduction

One theme that currently pervades teacher preparation is the goal for preservice and inservice teachers to become reflective practitioners. Expectations that teacher education programs demonstrate teaching effectiveness and learner outcomes through portfolios which demonstrate reflective practice have prompted many teacher preparation programs in Wisconsin to shift from paper driven portfolios to electronic portfolios. The electronic portfolio allows for actual classroom performances captured on videotapes to be submitted as evidence of performance outcomes.

Currently, students in the teacher preparation program at the University of Wisconsin-River Falls are expected to capture their teaching experience on videotape in several benchmark assignments. Subsequently, they are required to reflect on how, why, and where they met the learning outcomes and Wisconsin Teacher Standards with the videotaped assignments. Students are also required to reflect on how they might change and improve their instruction as well as establish goals for their professional development. This requirement is in keeping with the

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constructivist conceptual framework as well as Schon's assertion (1987) that an effective experience needs to be culminated by a "dialogue between coach and student."

Instructors assign various projects suitable for electronic portfolios and have developed several different forms of feedback and assessment for these course driven artifacts. Instructors are searching for a more systematic method for providing feedback to preservice and inservice teachers which would help students focus on reflection as a professional development skill. Instructors have also expressed the need to have peers (other students) involved in the feedback process.

Throughout the teacher preparation program, instructors work closely with the preservice and student teachers in actual classroom environments. Early field experiences provide opportunities for teacher candidates to reflect on their practice throughout the program. Providing feedback on students' reflections is difficult without the students' knowledge and understanding of the criteria for evaluation.

Instructor feedback should ideally be connected to prior learning and consistent in order to enhance the developmental process of reflection. Students should also be aware of differences between novice and expert reflections. Instructors need help demonstrating that experience shapes and changes the focus, depth, and breadth of the reflection as novices develop the knowledge, skills, and dispositions necessary for quality reflective practice. This project was driven by all of the aforementioned needs to develop a method and mechanism for providing students with feedback on their reflections derived from videotaped teaching experiences.

Project Development

Literature Review

The notion of the teacher as a reflective practitioner has gained great momentum since Dewey's initial assertion that teachers needed to develop "cultural reflection." Dewey defined

reflection as "an active, persistent, and careful consideration of any belief or supposed form of knowledge in light of the grounds supporting it and future conclusions to which it tends" (1933). A more recent definition provided in an educational psychology textbook (Eggen & Kauchak, 1997) describes reflective teaching as: "An approach to teaching characterized by a thorough understanding of students, the way they learn, what motivates them, and continual introspection about the most efficient ways of organizing and implementing instruction." The portfolio has been recently adopted by many programs as a means of evaluating students' progress as reflective practitioners (Peters, 2000). This method of both assessing and demonstrating outcomes has been widely accepted in teacher preparation programs nationally (Campbell, Melenyzer, Nettles, & Wyman, 2000) and internationally (Ahlstrand & Nilsson, 1999).

Researchers have demonstrated that some guidance, along with a collection of expert teaching episodes (either audio or video) as examples are essential elements for student teachers if they are to become adept at their reflective practice (Harris & Wear, 1993; Hole & McEntee, 1999). We also know that a dialogue, either with peers, a cooperating teacher, or a university instructor, further enhances the likelihood that students will engage in "deliberation, confrontation and critical inquiry" (Clark, 2001). Therefore, it is important for students to also talk about their professional growth with a critical friend. Evaluation of the reflective portfolio could be an initial opportunity for students to engage in conversations with instructors or each other to improve their reflective skills.

However, there is very little evidence that a valid and reliable method exists for evaluating or measuring "reflection" as a psychological construct. Journal writing has been documented as a means for providing a record of teacher candidates' development (Zeichner & Liston, 1987). Sometimes students are given lists of questions to guide their journal writing, or are given step-by-step procedures for collecting and explaining the portfolio artifacts and

evidence (Lyons, 1998). But students are frequently unaware of how their actual reflections will be evaluated.

One system of evaluation (Webster & Byrne, 1994) described the expectations for reflection by student teachers to be:

1. Acting on the advice and feedback of colleagues.
2. Reflecting on their own practice to improve the quality of teaching and learning.
3. Displaying evidence of developing a personal philosophy of education.

While these expectations are similar to some of the outcomes described in the Wisconsin Teacher Standards, they lack specificity of criteria for distinguishing between an excellent versus unsatisfactory reflection. Another developmental model suggested by Van Manen (1977) presents the outcomes for three levels of reflection:

1. Concern with classroom management and meeting the objective.
2. Concentration on the relationship between theory and practice.
3. Connection between the microcosm of the classroom and the broader setting.

A distinction is apparent here in the breadth and depth of cognitive processing as the student may move from merely examining the confines of the classroom (level one) to seeing the classroom as an extension of the neighborhood, the nation, and the global community (level three). There are also some recognizable similarities to Bloom's Taxonomy of cognitive processing.

Danielson (1996) has identified four domains of teaching responsibilities in her Framework for Professional Practice: planning and preparation, classroom environment, instruction, and professional responsibilities. "Reflecting on teaching" is one component within the Professional Responsibilities domain. To assess the experienced teacher's reflection, Danielson poses four questions on a "reflection sheet," and then evaluates the teacher's

responses with regard to two elements: "accuracy" and "use in future teaching" (p. 107). Danielson provides a rubric for this assessment which makes distinctions (through the use of examples) between four levels of performance: "unsatisfactory, basic, proficient, and distinguished" (Danielson, 1996).

The levels of performance that Danielson (1996) describes are helpful, but may be inappropriate for some inexperienced or novice teachers. The category labeled "unsatisfactory" may, in fact, be descriptive of an inexperienced teacher's response to initial inquiries related to their videotaped segments. The descriptors seem too vague to provide the much-needed scaffolding to improve reflective practice for a beginner. Danielson's rubric does, however, provide an interesting and worthwhile model for experienced teachers and is used by many programs to prepare teachers for National Board Certification.

Despite the abundance of evidence supporting the value of reflection for preservice and inservice teachers, there is limited research that establishes guidelines for evaluating reflection during the early stages of development. By comparing the differences between expert and novice reflection, a developmental model was developed that establishes a starting point for evaluating and guiding early reflections. This model is intended to give students (and instructors) a clearer picture for how they might improve reflective skills. The developmental model is followed by a flexible assessment rubric. Instructors may use both the model and the rubric to review relevant field-based assignments and their resultant performance outcomes. These artifacts become evidence in the electronic reflective portfolio.

Phase I: Levels of Reflection

The initial activity involved reviewing videotapes of five preservice teachers who had videotaped themselves teaching a science lesson and later reflected on their teaching episode. Their reflections were also captured on tape. Two reviewers observed the edited videotapes

which included the teaching episodes and the preservice teachers sharing their reflections of the teaching with their peers (Pepi, 2001). The reviewers examined the preservice teachers' videotapes and then individually ranked them based on overall performance. Ranking the five reflective videotapes and providing a rationale for the differences led to this initial "Levels of Reflection" rubric. The reviewers' individual rankings of the five videotapes were practically identical. Because the videos revealed actual student-to-student conversations, the real range of skills that the preservice teachers demonstrated was captured. The reflections could easily be divided into three levels.

Levels of Reflection		
High	**Middle**	**Low**
"My classroom management includes more praise than punishment."	"The next time I teach this I would increase the time for small group activity."	"It went okay."
"I can see how this math lesson can be integrated with science."	"I need to improve the way I measure student learning at the end of the lesson."	"It didn't go so well."
"For the first time I saw the lesson from the student's point of view and not the teacher's."	"The students did not understand the 'law of inertia' from this lesson."	"Things didn't work out like I planned."
		(Crotty & Allyn, 2001)

Phase II: Guided Reflection Sessions

After the initial work to establish levels of reflection, three different students were assisted with their reflections as they viewed their videotaped teaching episodes. These students' levels of experience included a student teacher, one midway through a preteaching immersion experience, and one beginning her first field experience. The individual sessions all began with the following questions to guide the discussion:

1. Tell me what you thought was significant in this tape and why.
2. Can you show me examples of how you believe you acted, thought, or talked like the teacher you would like to become?
3. How would you improve this lesson and why?
4. What did you learn about planning in this lesson?
5. What would you like to accomplish with this video and this session?
6. Do you have an electronic portfolio?

(These questions were derived in part from a set of questions located during the literature review in a text written by Roe & Ross, 1994.)

In each of the before mentioned sessions, students were able to engage in a dialogue about their teaching. Two out of the three students felt that the tape they reviewed would not be the videotape they would include in their portfolio. While they learned a great deal about the technical aspects of taping with regard to the quality of picture and sound, they indicated that they would rather capture a better teaching episode for their electronic portfolio. Not surprisingly, of the three students, the student teacher had both the best quality video and the highest level of reflection.

The new insights gained by the three guided practice sessions included 1) the need to provide instruction on videotaping, 2) guidelines for editing as well as reflecting and 3) instructors need to provide reflective assessments and accompanying assessments that are developmentally appropriate.

Students should be given a great deal of guidance before they even begin taping their teaching episodes. They need specific instructions on the types of interactions to attempt to capture. Directions for equipment use and set-up need to be explicit for a high quality video. This equipment must also be made readily available and be in good working condition.

Because watching each tape in its entirety would not be possible for an entire class with multiple sections, students need guidelines for editing as well as reflecting. Students should be encouraged to create shorter teaching video segments. While three minutes may be a very long video segment for a portfolio, it may not be enough to get the context of an entire lesson. Students may need to voice-over some video segments to establish the classroom context as well as reflect on the shorter segments they've chosen as evidence.

Not all students are at the same level of reflection and this may be due to the range of opportunities provided for students to both teach and reflect. Instructors need to take this into consideration as they design reflective assignments and accompanying assessments.

An Expanded Developmental Model

By comparing our initial "Levels of Reflection Rubric" with richer descriptions (Campbell et al., 2000; Danielson, 1996) and case studies (Schon, 1991) referred to in the literature, a developmental model for the reflective practitioner emerged. The reflective performances were placed in order corresponding to Bloom's Taxonomy of Levels of learning (Bloom, 1956). Bloom's Taxonomy is typically introduced to the students early in their teacher preparation program. The taxonomy provides a systematic method for students to think about

lesson plan objectives, questions teachers ask, and types of assessments. It is introduced here to encourage students and instructors to think about reflective performances as outcomes at different cognitive levels. The objective is to help students reach higher levels of reflection as a cognitive process.

Depicted below is a three stage developmental model which shows growth from a beginner to a more experienced reflective practitioner. This includes three stages of reflection, each with six types of performances that are linked to Bloom's levels of cognitive outcomes.

A Beginner Reflective Practitioner

(cognitive level)		
Knowledge	1.	Briefly describes the relevance of the evidence or artifact;
Comprehension ...	2.	Demonstrates an understanding of student development and relevant instructional plans;
Application	3.	Connects college coursework concepts with practical classroom applications;
Analysis	4.	Shows evidence of taking a teacher's perspective.
Synthesis	5.	Establishes short term goals based upon perceived strengths and weaknesses;
Evaluation	6.	Includes an awareness of their own professional development as a teacher.

An Intermediate Reflective Practitioner

(cognitive level)		
Knowledge	1.	Supports and clarifies new understanding with evidence;
Comprehension ...	2.	Examines and recommends varied instructional strategies as a result of assessing student needs;

Application	3.	Demonstrates an awareness of teaching and learning theory through classroom application examples;
Analysis	4.	Shows ability to take multiple perspectives (teachers', parents', students' and principals');
Synthesis	5.	Establishes professional goals for teaching and learning;
Evaluation	6.	Includes references to feedback from other professionals (colleagues) about their own teaching.

An Expert Reflective Practitioner

(cognitive level)		
Knowledge	1.	Supports insight, creativity and understanding with evidence and artifacts;
Comprehension.....	2.	Demonstrates an in depth understanding of pedagogical theory, subject matter and student development and uses correct terminology throughout;
Application.....	3.	Assists or mentors other teachers;
Analysis	4.	Includes multiple perspectives (personal, professional, political and philosophical) of individuals and society;
Synthesis	5.	Establishes long-term goals and commitment to profession;
Evaluation	6.	Includes instances of giving and getting feedback from colleagues.

(Crotty, 2001)

Reflective Feedback Rubric

The new rubric (Appendix A) reflects the developmental stages of reflection with the application of the six levels of Bloom's Taxonomy: knowledge, comprehension, application, analysis, synthesis and evaluation (Bloom, 1956). The rubric also includes the Ten Wisconsin

Teacher Standards. While only eight of the Wisconsin Teaching Standards seem directly connected to the actual act of teaching and are more readily observable, self-evaluation and professional growth are included to assist the students in reflecting on all aspects of the profession.

The rubric is an assessment tool that can be adapted to meet the needs of the instructor. It is easily modified with the software (Microsoft Word) with which it was created. For example, when an instructor is working with a beginning reflective practitioner, the objectives of the assignment might only require two standards. Subsequently, the expectations for the student are to reflect at the early cognitive levels of Bloom's taxonomy. The rubric (Appendix B) is then reduced to reflect this particular assignment.

Students and instructors should already have familiarity with both the Ten Wisconsin Teacher Standards and Bloom's Taxonomy. Understanding both would be a prerequisite for using this rubric. Bloom's taxonomy provides the scaffolding necessary for student progress. Students can more readily connect their knowledge and understanding of higher levels of cognitive outcomes with their own reflective performance. The rubric may have many more uses:

1. Faculty can use the taxonomy to think about course assignments that are designed to build competencies which students are required to demonstrate and reflect upon during and after their teaching. Faculty can provide examples within a more focused rubric (Appendix B) to meet their individual needs. Course objectives will be more easily connected to outcome assessments.
2. Students could use the rubric to track their professional growth within each Wisconsin standard. They can easily begin to structure their portfolio around the standards, while documenting various types of reflections.

3. Students should be able to see how important clear objectives are for teaching and learning. That is, they will see first hand how course objectives are connected to their field based assignments and reflections.
4. Faculty could use this system to establish peer review guidelines. Students can give each other feedback as an initial evaluation.

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Appendix A

Videotape Reflection Feedback Form

Reflection demonstrates competence in the Cognitive Domain:

The Artifact Shows Evidence of: Wisconsin Standards (Full Description Attached)	Minimum **Knowledge** (recalls facts, principles)	**Comprehension** (demonstrates understanding, explains)	**Application** (generalizes to situations)	**Analysis** (detects relationships and point of view)	**Synthesis** (creates new methods)	Maximum **Evaluation** (uses criteria & evidence for judgment)
1. Subject Matter						
2. Developmental Theory						
3. Individual Differences						
4. Instructional Strategies						
5. Classroom Management						
6. Communication Techniques						
7. Lesson/Unit Planning						
8. Assessment Strategies						
9. Self Evaluation						
10. Professional Development						

(A rubric for enhancing peer dialogues or faculty assessments of reflective practice)

Appendix B

Videotape Reflection Feedback Form

Example I

The Artifact Shows Evidence of: WI Standards	**Knowledge** (recalls facts) and **Comprehension** (demonstrates Understanding)	**Application** (generalizes to situations)
1. Subject Matter		
2. Developmental Theory		
3. Individual Differences		

Example II

The Artifact Shows Evidence of: WI Standards	**Knowledge** (recalls facts) and **Comprehension** (demonstrates Understanding)	**Application** (generalizes to situations)
4. Instructional Strategies		
5. Classroom Management		
6. Communication Techniques		

Example III

The Artifact Shows Evidence of: WI Standards	**Knowledge** (recalls facts) and **Comprehension** (demonstrates Understanding)	**Application** (generalizes to situations)
7. Lesson/Unit Planning		
8. Assessment Strategies		
9. Self-Evaluation		
10. Professional Development		

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Videotape Reflection Feedback Form

Example IV

The Artifact Shows Evidence of: WI Standards	**Analysis** (detects relationships)	**Synthesis** (creates new methods)	**Evaluation** (uses criteria for judgment)
1. Subject Matter			
2. Developmental Theory			
3. Individual Differences			

Example V

The Artifact Shows Evidence of: WI Standards	**Analysis** (detects relationships)	**Synthesis** (creates new methods)	**Evaluation** (uses criteria for judgment)
4. Instructional Strategies			
5. Classroom Management			
6. Communication Techniques			

Example VI

The Artifact Shows Evidence of: WI Standards	**Synthesis** (creates new methods)	**Evaluation** (uses criteria and evidence for judgment)
7. Lesson/Unit Planning		
8. Assessment Strategies		
9. Self-Evaluation		
10. Professional Development		